

In the Claims

This listing of claims replaces all prior versions and listings of claims:

1. (Currently Amended) A liquid discharging apparatus for discharging droplets from a liquid discharge nozzle to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with the liquid discharge nozzle, the liquid discharging apparatus comprising:

a platen plate for supporting the discharge object, defining a positional relationship between the discharge object and the liquid discharge head, and receiving the droplets discharged from the liquid discharge head; and

a cap member for accommodating a cleaning member therein and protecting the liquid discharge surface of the liquid discharge head,

wherein,

liquid present in the liquid discharge nozzle is sucked by contacting an outer face of the cleaning member to the liquid discharge surface as the cap member moves from a closed position to an open position, (1) droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate and (2) the outer face of the cleaning member does not contact the liquid discharge surface as the cleaning member returns to the closed position.

2. (Original) The liquid discharging apparatus according to Claim 1, further comprising discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzle in the liquid discharge surface,

wherein,

at a time when an operation of discharging liquid to the discharge object begins, preliminary discharge is performed to the platen plate.

3. (Original) The liquid discharging apparatus according to Claim 1, further comprising discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzle in the liquid discharge surface,

wherein,

at a time when an operation of discharging liquid to the discharge object ends, preliminary discharge is performed to the platen plate.

4. (Currently Amended) The liquid discharging apparatus according to Claim 1, further comprising discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzle in the liquid discharge surface, wherein,

after an operation of discharging liquid to the discharge object begins, every time the number of printed pages of the discharge object reaches a predetermined number, (1) the operation of discharging liquid is temporarily stopped[[.]] and (2) droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate by control of the discharge controlling means.

5. (Currently Amended) The liquid discharging apparatus according to Claim 1, further comprising discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzle in the liquid discharge surface, wherein,

after an operation of discharging liquid to the discharge object begins, every time a predetermined period of time elapses, (1) the operation of discharging liquid is temporarily stopped, and (2) droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate by control of the discharge controlling means.

6. (Currently Amended) A liquid discharging apparatus for discharging droplets from a liquid discharge nozzle to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with the liquid discharge nozzle, the liquid discharging apparatus comprising:

a cleaning member formed of an elastic material and having a cylindrical shape;

moving means for causing relative movement between the cleaning member and the liquid discharge surface while an outer face of the cleaning member is in contact with the liquid

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discharge surface of the liquid discharge head;

drive controlling means for controlling driving of the moving means;

discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzle in the liquid discharge surface; ~~and~~

a platen plate for supporting the discharge object, defining a positional relationship between the discharge object and the liquid discharge head, and receiving the droplets discharged from the liquid discharge head; and

a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head,

wherein,

liquid present in the liquid discharge nozzle is sucked by performing movement while the outer face of the cleaning member is in contact with the liquid discharge surface by driving of the moving means under control of the drive controlling means, and[[.]]

after the cleaning member has moved from a closed position to an open position and passed over the liquid discharge surface, (1) droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate by control of the discharge controlling means and (2) the outer face of the cleaning member does not contact the liquid discharge surface as the cleaning member returns to the closed position.

7. (Currently Amended) The liquid discharging apparatus according to Claim 6, wherein,

at a time when an operation of discharging liquid to the discharge object begins, liquid present in the liquid discharge nozzle is sucked by performing movement while the outer face of the cleaning member is in contact with the liquid discharge surface by driving of the moving means under control of the drive controlling means, and[[.]]

after the cleaning member has passed over the liquid discharge surface, droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate by control of the discharge controlling means.

8. (Currently Amended) The liquid discharging apparatus according to Claim 6, wherein,

at a time when an operation of discharging liquid to the discharge object ends, liquid present in the liquid discharge nozzle is sucked by performing movement while the outer face of the cleaning member is in contact with the liquid discharge surface by driving of the moving means under control of the drive controlling means, and[[,]]

when the cleaning member moves the liquid discharge surface, droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate by control of the discharge controlling means.

9. (Currently Amended) The liquid discharging apparatus according to Claim 6, wherein,

after an operation of discharging liquid to the discharge object begins, every time the number of printed pages of the discharge object reaches a predetermined number, (1) the operation of discharging liquid is temporarily stopped[[,]] (2) and droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate by control of the discharge controlling means.

10. (Currently Amended) The liquid discharging apparatus according to Claim 6, further comprising discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzle in the liquid discharge surface, wherein,

after an operation of discharging liquid to the discharge object begins, every time a predetermined period of time elapses, (1) the operation of discharging liquid is temporarily stopped[[,]] and (2) droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate by control of the discharge controlling means.

11. (Currently Amended) The liquid discharging apparatus according to Claim 6, ~~further comprising a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head,~~

wherein,

the cap member is opened and closed by driving of the moving means, relative movement between the cleaning member and the liquid discharge surface while the outer face of the cleaning member is in contact with the liquid discharge surface of the liquid discharge head is caused as the cap member is opened, and[[,]]

after the cleaning member has passed over the liquid discharge surface, droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate by control of the discharge controlling means.

12. (Currently Amended) The liquid discharging apparatus according to Claim 6, ~~further comprising a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head,~~

wherein,

the cap member temporarily closed is reopened and reclosed by driving of the moving means, relative movement between the cleaning member and the liquid discharge surface while the outer face of the cleaning member is in contact with the liquid discharge surface of the liquid discharge head is caused as the cap member is opened, and[[,]]

after the cleaning member has passed over the liquid discharge surface, droplets are preliminarily discharged from the liquid discharge nozzle to the platen plate by control of the discharge controlling means.

13. (Cancelled)

14. (Currently Amended) The liquid discharging apparatus according to Claim 1 or Claim 6, wherein, the platen plate is formed such that the droplets preliminarily discharged from the liquid discharge nozzle flow out of the platen plate.

15. (Currently Amended) The liquid discharging apparatus according to ~~Claim or~~ Claim 6, wherein, the platen plate is formed such that the droplets preliminarily discharged from the liquid discharge nozzle are forced out of the platen plate.

16. (Currently Amended) A liquid discharging apparatus for discharging droplets from liquid discharge nozzles to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with rows of the liquid discharge nozzles for a plurality of colors, each row of the liquid discharge nozzles corresponding to one color, the liquid discharging apparatus comprising:

a cleaning member formed of an elastic material and having a cylindrical shape;

a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head;

cap opening and closing means for opening and closing the cap member and for, as the cap member is opened, causing relative movement between the cleaning member and the liquid discharge surface in a direction perpendicular to the rows of the liquid discharge nozzles for the colors while an outer face of the cleaning member is in contact with the liquid discharge surface of the liquid discharge head;

drive controlling means for controlling driving of the cap opening and closing means;

discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzles of the liquid discharge surface; and

a platen plate for supporting the discharge object, defining a positional relationship between the discharge object and the liquid discharge head, and receiving the droplets discharged from the liquid discharge head,

wherein,

at a time when an operation of discharging liquid to the discharge object begins, the cap member is opened by driving of the cap opening and closing means under control of the drive controlling means, liquid present in the liquid discharge nozzles is sucked by performing movement (1) while the outer face of the cleaning member is in contact with the liquid discharge surface and (2) as the cap member is opened, and, after the cleaning member has passed over the liquid discharge surface, (1) droplets are

preliminarily discharged from the liquid discharge nozzles to the platen plate by control of the discharge controlling means and (2) the cap member is closed without the outer face of the cleaning member contacting the liquid discharge surface.

17. (Currently Amended) A liquid discharging apparatus for discharging droplets from liquid discharge nozzles to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with rows of the liquid discharge nozzles for a plurality of colors, each row of the liquid discharge nozzles corresponding to one color, the liquid discharging apparatus comprising:

a cleaning member formed of an elastic material and having a cylindrical shape;

a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head;

cap opening and closing means for opening and closing the cap member and for, as the cap member is opened, causing relative movement between the cleaning member and the liquid discharge surface in a direction perpendicular to the rows of the liquid discharge nozzles for the colors while an outer face of the cleaning member is in contact with the liquid discharge surface of the liquid discharge head;

drive controlling means for controlling driving of the cap opening and closing means;

discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzles of the liquid discharge surface; and

a platen plate for supporting the discharge object, defining a positional relationship between the discharge object and the liquid discharge head, and receiving the droplets discharged from the liquid discharge head,

wherein,

at a time when an operation of discharging liquid to the discharge object ends, the cap member temporarily closed is reopened and reclosed by driving of the moving means under control of the drive controlling means, liquid present in the liquid discharge nozzles is sucked by performing movement (1) while the outer face of the cleaning member is in contact with the liquid discharge surface and (2) as the cap member is opened, and, after the cleaning member has passed over the liquid discharge surface,

(1) droplets are preliminarily discharged from the liquid discharge nozzles to the platen plate by control of the discharge controlling means and (2) the cap member is closed without the outer face of the cleaning member contacting the liquid discharge surface.

18. (Currently Amended) A liquid discharging apparatus for discharging droplets from liquid discharge nozzles to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with rows of the liquid discharge nozzles for a plurality of colors, each row of the liquid discharge nozzles corresponding to one color, the liquid discharging apparatus comprising:

a cleaning member formed of an elastic material and having a cylindrical shape;

a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head;

cap opening and closing means for opening and closing the cap member and for, as the cap member is closed, causing relative movement between the cleaning member and the liquid discharge surface in a direction perpendicular to the rows of the liquid discharge nozzles for the colors while an outer face of the cleaning member is in contact with the liquid discharge surface of the liquid discharge head;

drive controlling means for controlling driving of the cap opening and closing means;

discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzles of the liquid discharge surface; and

a platen plate for supporting the discharge object, defining a positional relationship between the discharge object and the liquid discharge head, and receiving the droplets discharged from the liquid discharge head,

wherein,

at a time when an operation of discharging liquid to the discharge object ends, before the cap member is closed by driving of the cap opening and closing means under control of the drive controlling means and movement ~~while the outer face of the cleaning member is in contact with the liquid discharge surface is caused~~, (1) droplets are preliminarily discharged from the liquid discharge nozzles to the platen plate and (2) the cap member is closed without the outer face of the cleaning member contacting the

liquid discharge surface.

19. (Currently Amended) A liquid discharging apparatus for discharging droplets from liquid discharge nozzles to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with rows of the liquid discharge nozzles for a plurality of colors, each row of the liquid discharge nozzles corresponding to one color, the liquid discharging apparatus comprising:

a cleaning member formed of an elastic material and having a cylindrical shape;

a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head;

cap opening and closing means for opening and closing the cap member and for, as the cap member is opened, causing relative movement between the cleaning member and the liquid discharge surface in a direction perpendicular to the rows of the liquid discharge nozzles for the colors while an outer face of the cleaning member is in contact with the liquid discharge surface of the liquid discharge head;

drive controlling means for controlling driving of the cap opening and closing means;

discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzles of the liquid discharge surface; and

a platen plate for supporting the discharge object, defining a positional relationship between the discharge object and the liquid discharge head, and receiving the droplets discharged from the liquid discharge head,

wherein,

after an operation of discharging liquid to the discharge object begins, every time the number of printed pages of the discharge object reaches a predetermined number,

(1) the operation of discharging liquid is temporarily stopped, (2) the cap member is reopened after the cap member is temporarily closed by driving of the cap opening and closing means under control of the drive controlling means, (3) liquid present in the liquid discharge nozzles is sucked by performing movement (i) while the outer face of the cleaning member is in contact with the liquid discharge surface and (ii) as the cap member is reopened, and[[,]]

after the cleaning member has passed over the liquid discharge surface, (4) droplets are preliminarily discharged from the liquid discharge nozzles to the platen plate by control of the discharge controlling means and (5) the cap member is closed without the outer face of the cleaning member contacting the liquid discharge surface.

20. (Currently Amended) A liquid discharging apparatus for discharging droplets from liquid discharge nozzles to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with rows of the liquid discharge nozzles for a plurality of colors, each row of the liquid discharge nozzles corresponding to one color, the liquid discharging apparatus comprising:

a cleaning member formed of an elastic material and having a cylindrical shape;

a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head;

cap opening and closing means for opening and closing the cap member and for, as the cap member is closed, causing relative movement between the cleaning member and the liquid discharge surface in a direction perpendicular to the rows of the liquid discharge nozzles for the colors while an outer face of the cleaning member is in contact with the liquid discharge surface of the liquid discharge head;

drive controlling means for controlling driving of the cap opening and closing means;

discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzles of the liquid discharge surface; and

a platen plate for supporting the discharge object, defining a positional relationship between the discharge object and the liquid discharge head, and receiving the droplets discharged from the liquid discharge head,

wherein,

after an operation of discharging liquid to the discharge object begins, every time the number of printed pages of the discharge object reaches a predetermined number,

(1) the operation of discharging liquid is temporarily stopped, (2) the cap member is temporarily closed by driving of the cap opening and closing means under control of the drive controlling means, (3) the cap member is reopened after liquid present in the liquid

discharge nozzles is sucked by performing movement (i) while the outer face of the cleaning member is in contact with the liquid discharge surface and (ii) as the cap member is opened, and[[,]]

after the cleaning member has passed over the liquid discharge surface, (4) droplets are preliminarily discharged from the liquid discharge nozzles to the platen plate by control of the discharge controlling means, and (5) the cap member is closed without the outer face of the cleaning member contacting the liquid discharge surface.

21. (Currently Amended) A liquid discharging apparatus for discharging droplets from liquid discharge nozzles to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with rows of the liquid discharge nozzles for a plurality of colors, each row of the liquid discharge nozzles corresponding to one color, the liquid discharging apparatus comprising:

a cleaning member formed of an elastic material and having a cylindrical shape;

a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head;

cap opening and closing means for opening and closing the cap member and for, as the cap member is opened, causing relative movement between the cleaning member and the liquid discharge surface in a direction perpendicular to the rows of the liquid discharge nozzles for the colors while an outer face of the cleaning member is in contact with the liquid discharge surface of the liquid discharge head;

drive controlling means for controlling driving of the cap opening and closing means;

discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzles of the liquid discharge surface; and

a platen plate for supporting the discharge object, defining a positional relationship between the discharge object and the liquid discharge head, and receiving the droplets discharged from the liquid discharge head,

wherein,

after an operation of discharging liquid to the discharge object begins, every time a predetermined period of time elapses, (1) the operation of discharging liquid is

temporarily stopped, (2) the cap member is reopened after the cap member is temporarily closed by driving of the cap opening and closing means under control of the drive controlling means, (3) liquid present in the liquid discharge nozzles is sucked by performing movement (i) while the outer face of the cleaning member is in contact with the liquid discharge surface and (ii) as the cap member is reopened, and~~[[,]]~~
after the cleaning member has passed over the liquid discharge surface as the cap member is opened, (4) droplets are preliminarily discharged from the liquid discharge nozzles to the platen plate by control of the discharge controlling means, and (5) the cap member is closed without the outer face of the cleaning member contacting the liquid discharge surface.

22. (Currently Amended) A liquid discharging apparatus for discharging droplets from liquid discharge nozzles to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with rows of the liquid discharge nozzles for a plurality of colors, each row of the liquid discharge nozzles corresponding to one color, the liquid discharging apparatus comprising:

- a cleaning member formed of an elastic material and having a cylindrical shape;
- a cap member for accommodating the cleaning member therein and protecting the liquid discharge surface of the liquid discharge head;
- cap opening and closing means for opening and closing the cap member and for, as the cap member is closed, causing relative movement between the cleaning member and the liquid discharge surface in a direction perpendicular to the rows of the liquid discharge nozzles for the colors while an outer face of the cleaning member is in contact with the liquid discharge surface of the liquid discharge head;
- drive controlling means for controlling driving of the cap opening and closing means;
- discharge controlling means for controlling a discharge operation of discharging the droplets from the liquid discharge nozzles of the liquid discharge surface; and
- a platen plate for supporting the discharge object, defining a positional relationship between the discharge object and the liquid discharge head, and receiving the droplets discharged from the liquid discharge head,

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wherein,

after an operation of discharging liquid to the discharge object begins, every time a predetermined period of time elapses, (1) the operation of discharging liquid is temporarily stopped, (2) the cap member is temporarily closed by driving of the cap opening and closing means under control of the drive controlling means, (3) the cap member is reopened after liquid present in the liquid discharge nozzles is sucked by performing movement (i) while the outer face of the cleaning member is in contact with the liquid discharge surface and (ii) as the cap member is opened, and[[,]]

after the cleaning member has passed over the liquid discharge surface, (4) droplets are preliminarily discharged from the liquid discharge nozzles to the platen plate by control of the discharge controlling means, and (5) the cap member is closed without the outer face of the cleaning member contacting the liquid discharge surface.

23. (Original) The liquid discharging apparatus according to any one of Claims 16, 17, and 19 to 22,

wherein,

in the order in which the cleaning member has passed over the rows of the liquid discharge nozzles corresponding to the colors, droplets are preliminarily discharged from the liquid discharge nozzles by control of the discharge controlling means.

24. (Original) The liquid discharging apparatus according to any one of Claims 16, 17, and 19 to 22,

wherein,

after the cleaning member has passed over the rows of the liquid discharge nozzles corresponding to the colors, droplets corresponding to the plurality of colors are preliminarily discharged from the liquid discharge nozzles in a simultaneous manner by control of the discharge controlling means.

25. (Original) The liquid discharging apparatus according to Claim 18,
wherein,

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before the cap member is closed by driving of the cap opening and closing means by control of the drive controlling means and movement while the outer face of the cleaning member is in contact with the liquid discharge surface is caused, in the order in which the cleaning member passes over the rows of the liquid discharge nozzles corresponding to the colors, droplets are preliminarily discharged from the liquid discharge nozzles.

26. (Currently Amended) A method for controlling a liquid discharging apparatus for discharging droplets from a liquid discharge nozzle to a discharge object to be discharged, the liquid discharging apparatus including a liquid discharge head having a liquid discharge surface provided with the liquid discharge nozzle, the liquid discharging apparatus being provided with a platen plate for (1) supporting the discharge object, (2) defining a positional relationship between the discharge object and the liquid discharge head, and (3) receiving the droplets discharged from the liquid discharge head, the method comprising:

providing a cap member for accommodating a cleaning member therein and protecting the liquid discharge surface of the liquid discharge head;

sucking liquid present in the liquid discharge nozzle by contacting an outer face of the cleaning member to the liquid discharge surface as the cap member moves from a closed position to an open position;

preliminarily discharging droplets from the liquid discharge nozzle to the platen plate;
and

returning the cleaning member to the closed position without the outer face of the cleaning member contacting the liquid discharge surface.

27. (Currently Amended) The method for controlling the liquid discharging apparatus according to Claim 26, the method further comprising:

performing preliminary discharge to the platen plate at a time when an operation of discharging liquid to the discharge object begins.

28. (Currently Amended) The method for controlling the liquid discharging apparatus according to Claim 26, the method further comprising:

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| _____performing preliminary discharge to the platen plate at a time when an operation of discharging liquid to the discharge object ends.

29. (Currently Amended) The method for controlling the liquid discharging apparatus according to Claim 26, the method further comprising:
| _____temporarily stopping an operation of discharging liquid and preliminarily discharging droplets from the liquid discharge nozzle to the platen plate, every time the number of printed pages of the discharge object reaches a predetermined number, after the operation of discharging liquid to the discharge object begins.

30. (Currently Amended) The method for controlling the liquid discharging apparatus according to Claim 26, the method further comprising:
| _____temporarily stopping an operation of discharging liquid and preliminarily discharging droplets from the liquid discharge nozzle to the platen plate, every time a predetermined period of time elapses, after the operation of discharging liquid to the discharge object begins.